

REMARKS

Pursuant to 37 C.F.R. §1.111, reconsideration of the instant application, as amended herewith, is respectfully requested. Entry of the amendment is requested.

Claims 1-5 and 7-20 are presently pending before the Office. Applicant has amended claims 5 and 14-17 and added new claims 18-20. No new matter has been added. Support for the amendments can be found throughout the specification as originally filed, particularly on page 11, lines 2-11 of the specification. Applicant is not intending in any manner to narrow the scope of the originally filed claims.

Claims 5 and 18-20 contain limitations fully supported on page 11 of the specification. “Costumery” is defined in Webster’s Dictionary as an article of costume or the art of costuming. Costume as defined further includes “the prevailing fashion of coiffure, jewelry, and apparel, an outfit worn to create appearance, person, or thing, a person’s ensemble of outer garments, a woman’s ensemble of dress with coat or jacket, suitability for enhancing the effect of a costume such as a handbag, etc. The term “costumery” is therefore well understood and supported by the specification and the claim 5 is clearly definitive.

The Examiner’s Action mailed May 16, 2006 and the references cited therein have been carefully studied by Applicant and the undersigned counsel. The amendments appearing herein and these explanatory remarks are believed to be fully responsive to the Action. Accordingly, this important patent application is believed to be in condition for allowance.

The Examiner has rejected claims 5 and 7-13 as being indefinite under 35 USC 112, second paragraph. Applicant’s inclusion of the limitation of claim 6 into claim 5 is believed to overcome this rejection and to further result in the allowance of claims 5, and 7-20. Withdrawal of the rejection is respectfully requested.

Relying on 35 U.S.C. §102(b), the Examiner has rejected the subject matter of claims 1-7 and 7-13 as being anticipated by Hoshi. Applicant respectfully traverses the rejection and requests reconsideration.

Applicant respectfully submits that it is important to note that, historically, the Office and the Federal Circuit has required that for a §102 anticipation, a single reference must teach (i.e., identically describe) each and every element of the rejected claim. The Office has steadfastly and properly maintained that view.

The Hoshi patent fails this test. The examiner states that “Hoshi discloses plating an alloy including 20-95 wt.% Cu, 5-50 wt.% Sn and 0.5-3 wt.% oxygen on super abrasive grains (e.g. see paragraph [0012]).” However, the alloy described in the Hoshi reference is a sintered alloy, which is different from the plating of the present invention.

As a production method of a metal bonded grinding wheel, the Hoshi reference describes in claim 6 a method including the following steps:

- (i) a step of preparing plated abrasive grain 10 by forming metal plating layer 3 on the surface of super abrasive grain 2 through non-electrolytic plating method (Fig. 3 (a) to (b));
- (ii) a step of covering the grain 10 with particles through a pressure-bonding process, wherein the plated grain 10 is mixed in a mixture of particles consisting of Cu and Sn particles both having smaller average particle size than the plated grain 10 and the metal particle mixture is pressure-bonded on the metal plating of grain 10 through mechanical friction-pressure welding action in pressure-rolling motion in the presence of oxygen to form pressure-bonded covering layer 11 on the outer periphery of grain 10 and thereby obtain metal-coated grain 12, and wherein during the process the mixture of the particles is allowed to contain oxygen, (Fig. 3 (b) to (c) and Fig. 4), and
- (iii) a molding step, wherein the metal-coated grain 12 is subjected to pressure-molding and sintering or to hot-pressing and thereby pressure-bonded covering layers 11 are bonded to each other (Fig. 1 and 2), to prepare sintered alloy containing 20 to 90 wt.% of Cu, 5 to 50 wt% of Sn and 0.5 to 3 wt% of oxygen and form metal-bonded abrasive grain layer 1 from the alloy.

That is, “alloy including 20-95 wt% Cu, 5-50 wt% Sn and 0.5-3 wt% oxygen on super abrasive grains” corresponds to metal-bonded abrasive grain layer 1; which comprises sintered alloy prepared by the above step (ii) involving preparation of metal-coated grain 12 having pressure-bonded covering layer 11 thereon and then sintering of the grain through pressure-

molding and sintering or hot-pressing. Therefore, the alloy of the Hoshi reference is poor in compositional uniformity, in that pores 6 are formed among particles of metal-coated grain 12 as shown in Fig. 2 and that even without pores, interface 5 is formed among the particles as shown in Fig. 1. Moreover, the thus formed portion like a spherical shell, obtained through pressure-bonding of particles followed by sintering, is poor in compositional uniformity at the micro level, and also properties of the portion differ depending on the particle size and particle size distribution of the powder used.

In contrast, the present invention relates to a plating alloy, which has uniformity at almost the molecular level, is different from aggregates of powder such as a sintered alloy.

Furthermore, it is well known that properties of alloys, even with the same composition, widely vary depending on the production methods. Accordingly, it can be easily understood by one of ordinary skill in the art that a plating alloy is different in structure and properties from a sintered alloy using powder metallurgy.

For example, if the same materials are used and the film thickness values are the same, a plating alloy is superior to a sintered alloy in terms of quality, such as corrosion resistance. Therefore, the plating alloy of the invention is different from the sintered alloy of the Hoshi reference in structure and properties.

Further, intended uses of the two are completely different.

Accordingly, the description of “alloy including 20-95 wt% Cu, 5-50 wt% Sn and 0.5-3 wt% oxygen on super abrasive grains” as to the sintered alloy in the Hoshi reference could not have been a motivation for one of ordinary skill in the art to link the description with the plating alloy of the present invention.

With respect to the description in paragraph [0013] of the Hoshi reference about forming metal plating layer 3 on the outer surface of super abrasive grain 2 for the purpose of enhancing adhesion between the sintered metal layer and the super abrasive grain in the preliminary process for production of the grinding wheel components used in the plating layer, Cu, Ni, Co, and Ag are selected, and particularly preferred is Cu. In examples of the reference, Cu plating was formed. Therefore, the plating adopted in the Hoshi reference is clearly different from the Cu-Sn-O plating of the present invention. Thus the plating would not have anticipated the present invention.

Accordingly, each and every element of Applicant's claims have not been taught in that single reference. In other words, the rejected claims do not read literally on any single item of prior art because Hoshi does not teach, disclose or suggest the present invention as claimed. Accordingly, Applicant respectfully submits that claims 1-5, 7-13, 18 and 19 have not been anticipated by the Hoshi patent under 35 U.S.C. §102(b), and respectfully requests that such rejection be withdrawn.

Applicant thanks the Examiner for indicating allowability of claim 6 and 14-17.

CONCLUSION

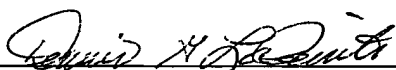
Even though the initial claims in this important patent application were drawn to a new, useful and nonobvious invention, they have now been amended to increase their specificity of language. Applicant respectfully submits that claims 1-5 and 7-20 are patentable over the art of record.

A Notice of Allowance is earnestly solicited.

If the Office is not fully persuaded as to the merits of Applicant's position, or if an Examiner's Amendment would place the pending claims in condition for allowance, a telephone call to the undersigned at (727) 943-9300 would be appreciated.

Very respectfully,

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